## (19) World Intellectual Property Organization International Bureau





### (43) International Publication Date 8 January 2004 (08.01.2004)

#### PCT

# (10) International Publication Number WO 2004/004422 A1

(51) International Patent Classification<sup>7</sup>: H05B 33/14, C09K 11/08, H01J 1/63, 63/04

(21) International Application Number:

PCT/IB2003/002766

(22) International Filing Date: 18 June 2003 (18.06.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 102 28 937.9

28 June 2002 (28.06.2002) DE

- (71) Applicant (for DE only): PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH [DE/DE]; Steindamm 94, 20099 Hamburg (DE).
- (71) Applicant (for all designated States except DE, US): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): BECHTEL, Hans-Helmut [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE). BUSSELT, Wolfgang [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE). OPITZ, Joachim [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE). KLEIN, Markus,

Heinrich [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE). BERTRAM, Dietrich [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE). GLÄSER, Harald [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE).

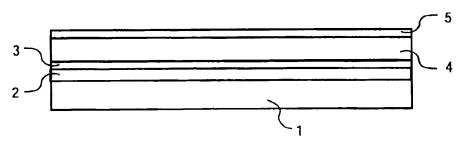
- (74) Agent: VOLMER, Georg; Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ELECTROLUMINESCENT DEVICE WITH IMPROVED LIGHT OUTPUT



(57) Abstract: The invention relates to an electroluminescent device comprising a substrate (1) and a laminated body composed of a first electrode (3), an electroluminescent layer (4) and a second electrode (5). The light output out of the electroluminescent device is increased by arranging a colloidal layer (2) between the substrate (1) and the laminated body. By using pigments in the colloidal layer (2), the emission color of the electroluminescent device can be changed and the daylight contrast improved.

